是是我们的一个人,我们就是我们的一个人,我们就是我们的一个人,我们就是我们的一个人,我们就是我们的一个人,我们就会会会会一个人,我们就是我们的一个人,你们就是我 第一个人,我们就是我们的一个人,我们就是我们的一个人,我们就是我们的一个人,我们就是我们的一个人,我们就是我们的一个人,我们就是我们的一个人,我们就是我们就是我

Metody teoril funktsiy kompleksnogo peremennogo

AID 627 - I

tion to physical and technical problems. The reader is expected to be versed in the fundamental course of mathematical analysis, e.g., the first two volumes of V. I. Smirnov's Kurs vysshey matematiki (1949), and G. M. Fikhtengol'ts' Kurs differentsial'nogo integral'nogo ischisleniya (vol. I-III, 1947-1949). The book is integral'nogo ischisleniya (vol. I-III, 1947-1949). The book is divided into seven chapters. Chapter I covers all the fundamental properties of functions of a complex variable, with their integration and representation in series (Laurent, Taylor) Riemaum surfaces; chapter II, conformal representation; chapter III, boundary problems and their application: harmonic functions, Dirichlet problem, problems of the theory of elasticity, Cauchy integral, formula of Keldyshems of the theory of elasticity, Cauchy integral, formula of Keldyshems of the theory of the composite boundary problem; chapter IV, variational principles of conformal representation; chapter V, application of the theory of functions to analysis; chapter VI, operational method and its application: Laplace transformation; and chapter VII, special functions: gamma function of Euler, orthogonal polynomials, cylindrical and elliptic functions. Every chapter includes numerous examples and a list of references. An alphabetical general index is at the end of the book. The text is illustrated by 218 figures and graphs.

No. of References: A large number in lists at the end of every chapter, all Russian, many translated.

Facilities: None

2/2

LAVRENT YEV, M.A. The Dirichlet problem for a narrow

Let D be a domain in 3-space homeomorphic to the region stratum. Trudy Mat. Inst. Steklov., v. 38, pp. 146-151. Izdat. Akad. Nauk SSSR, Moscow, 1951. (Russian) \*Lavrent'ev, M. A. 20 rubles.

the inequality 0<80=n=8, and that a similar condition is functions, f and fo, of class Care defined, and let W be the tions: W = f on  $\Gamma$ ,  $W = f_0$  on  $\Gamma_0$ . It is assumed that through that every point A of I can be joined to a point Ao of Io by a segment of the normal to I whose length " satisfies satisfied at every point of I's. Let W. denote the normal two continuously curved surfaces I and I's on which two harmonic function in D determined by the boundary condievery point of T and Io there pass two spheres of radius r, one contained in D and the other in the complement of D, bounded by two concentric spheres. Let D be bounded by

of fat A, and on the mean curvature of I at A. The error point  $A' \neq A$ . Assuming that f,  $f_0$  are of class C''', and that  $\Gamma$  is close to  $\Gamma_0$  and f to  $f_0$ , "of order 2", the author derives f(A), f.(A.), on the distance AA. on the second derivatives from a slight change in I and f in the neighborhood of a an approximate formula for W. depending on the values nate system) and an estimate of the change of W, resulting The author states an estimate for | W. | depending on r, 80, 8 and a bound on the boundary functions f, fo and their derivatives up to the second order (in an appropriate coordiderivative of Wat a point A of I.

The presentation is very condensed, and the reviewer was term in this formula is O(#), A being a parameter characterizing the narrowness of the region D.

SO: MATERATICAL REVIEW (unclassified)

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R000928820006-6"

#### "APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928820006-6

-HAEV, Lyubomir; LATREMTYEV, M.A., akademik,

LYEV, Lyubomir:
Series with Faber's polynomials the coefficients of which take a finite number of values. Dokl.AN SSSR 90 no.4:499-502 Je '53. (MLRA 6:5)

1. Akademiya Mauk SSSR. 2. Matematicheskiy institut pri Sofiyakom universitete. Sofiya, Bolgariya (for Iliev). (Series) (Plynomials)

SUYETIN, P.K.; LAVRENT'YEV, M.A., akademik.

Abelian and Tauberian theorems for series of Faber's polynomials. Dokl.

AH SSSR 91. no.1:27-30 Jl '53. (MLEA 6:6)

1. Akademiya nauk SSSR (for Lavrent'yev). (Series) (Folynomials)

BELINSKIY, P.P.; Lavrent'yev, M.A., akademik.

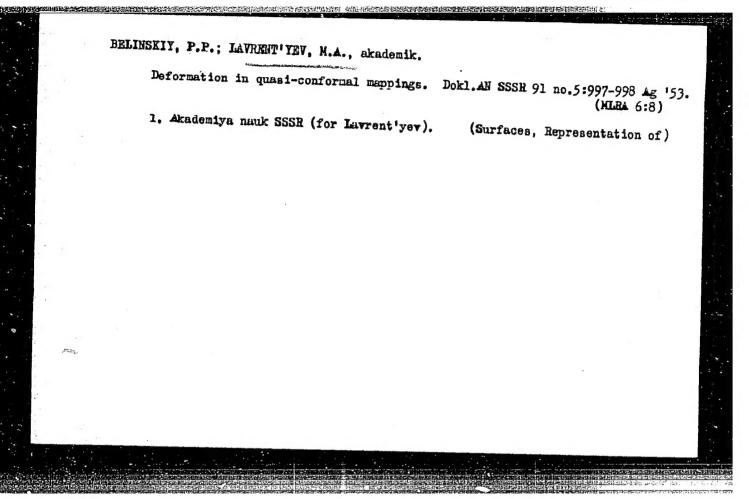
Behavior of a quasiconformal mapping at an isolated point. Dokl.AM SSSR 91 no.4:709-710 Ag '53. (MLRA 6:8)

1. Akademiya namk SSSR (for Lavrent'yev). (Surfaces, Representation of)

VERICIN, N.N.; LAVRENT'IEV, M.A., akademik,

Interaction of wells in transperipheral flooding of petroleum deposits. Dokl.AN SSSR 91 no.4:753-756 Ag '53. (MEA 6:8)

1. Akademiya nauk SSSR (for Lavrent'yev).
(Petroleum-Engineering) (Engineering--Petroleum)



# "APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928820006-6

KUDRYAVTSEV, L.D.; LAVRENT'YEV, M.A., akademik.

Harmonic representations. Dokl.AN SSSR 92 no.3:469-471 S '53.

(MIRA 6:9)

1. Akademiya nauk SSSR (for Lavrent'yev). 2. Moskovskiy fiziko-tekhnicheskiy institut (for Kudryavtsev). (Surfaces, Representation of)

BELINSKIY, P.P.; IAVRENT'YEV, M.A., akademik.

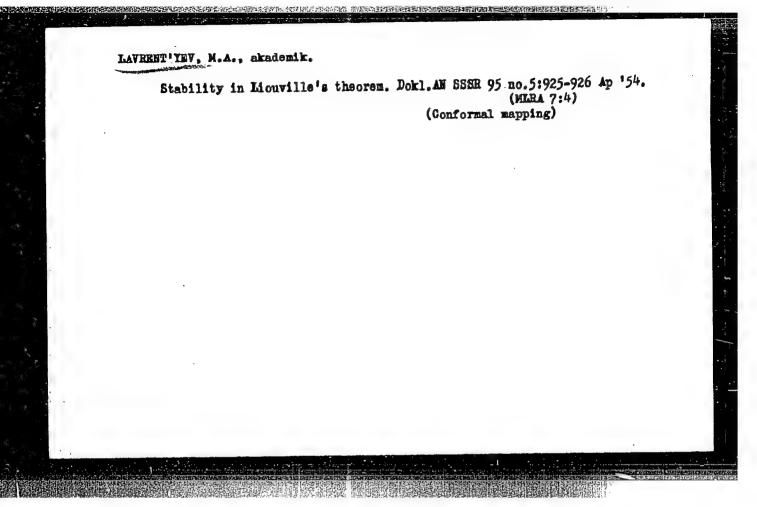
Metric properties of quasi-conformal mapping. Dokl.AH SSSE 93 no.4:589-590 D '53. (MLBA 6:11)

1. Akademiya nauk SSSR (for Lavrent'yev). (Surfaces, Representation of)

BITSADZE, A.V.; LAVRENT'YEV, M.A., akademik.

Inversion of a system of singular integral equations. Dokl.AH SSSR 93 no.4: 595-597 D '53. (HLRA 6:11)

1. Akademiya nauk SSSR (for Lavrent'yev). 2. Matematicheskiy institut im. V.A.Steklova Akademii nauk SSSR (for Bitsadse). (Integral equations)



#### CIA-RDP86-00513R000928820006-6 "APPROVED FOR RELEASE: 06/20/2000

LAVRENT YTV, M.A

AID P - 2839

Subject

: USSR/Electricity

Card 1/1

Pub. 27 - 28/30

Authors

: Academicians A. N. Nesmeyanov, A. V. Topchiyev, A. F. Ioffe, P. L. Kapitsa, M. A. Lavrent'yev, D. V. Skobel'tsyn, V. A. Fok

Title

: Albert Einstein (3.14.1879-4.18.1955) (Current

events)

Periodical

Elektrichestvo, 6, 85-86, Je 1955

Abstract

On the occasion of the death of Albert Einstein, the undersignes academicians present a short homage

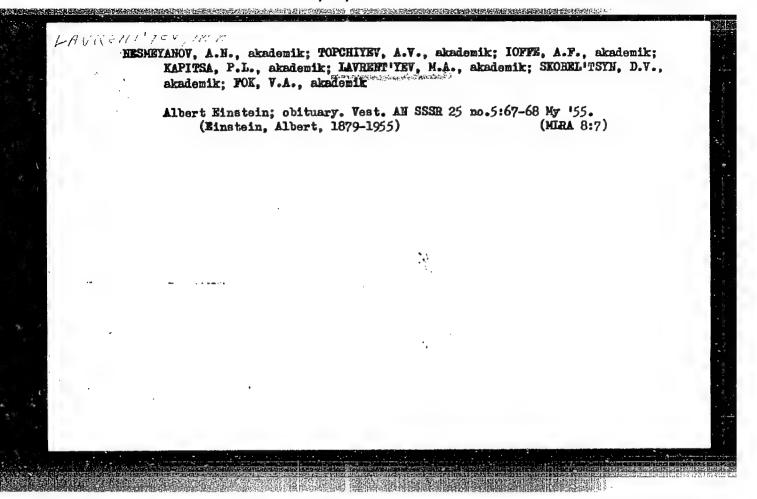
to commemorate his scientific activities.

Institution:

None

Submitted

No date



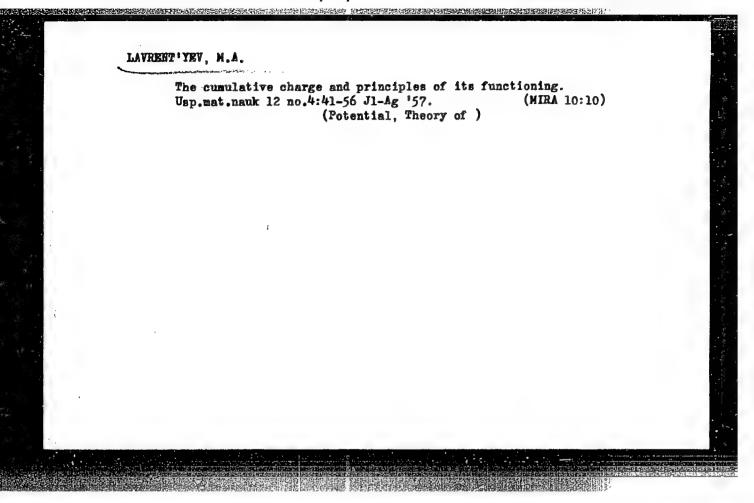
ALEKSANDROV, A.D., redaktor; KOLMOCOROV, A.B., akademik, redaktor; LAVERNT! IEV,
M.A., akademik, redaktor; RYVIIN, A.Z., redaktor izdatel'stva; FOLIVANOVA, Ye.B., tekhnicheskiy redaktor; ZELENKOVA, Ie.V., tekhnicheskiy
redaktor

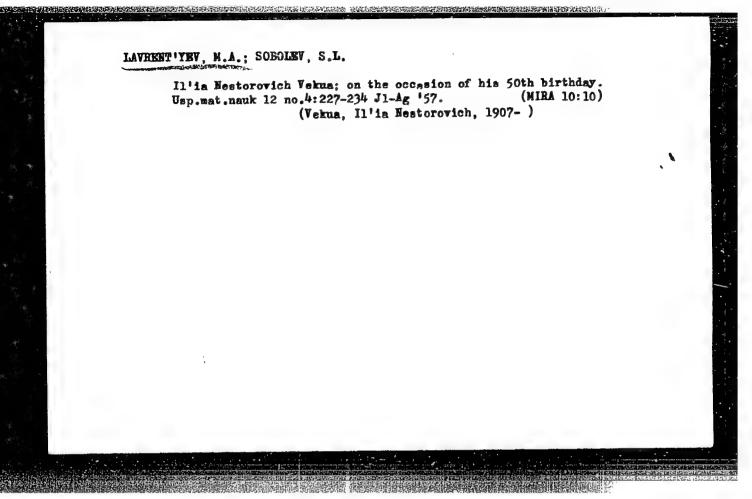
[Mathematics, its content, methods, and significance] Matematikm, ee
soderzhanle, metody i znachenie, Moskva, Vol.1, 1956, 294 p. Vol.2,
1956, 395 p. Vol.3, 1956, 336 p.

(MIRA 9:12)

1. Akademiya nauk SSSR. Matematicheskiy institut. 2. Chlenkorrespondent AN SSSR (for Aleksandrov)

(Mathematics)





#### "APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928820006-6

Larrent Yer, M.H.

AUTHOR: ALEKSANDROV, P.S., VEKUA, I.N., KELDYSH, M.V., LAVRENT 'YEV, M.A.

TITLE: Vladimir Ivanovich Smirnov (to his 70<sup>th</sup> Birthday) (Vladimir Ivanovich Smirnov (k semidesyatiletiyu so dnya rozhdeniya)

PERIODICAL: Uspekhi Matematicheskikh Nauk, 1957, Vol.12, Nr.6, pp. 197-205 (USSR)

ABSTRACT: This is a short biography of V.I.Smirnov with an appreciation

of his mathematical and pedagogical merits. A complete list of his publications with 109 numbers and a photo of the

celebrator of the jubilee are given.

AVAILABLE: Library of Congress

Card 1/1

#### "APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928820006-6

AUTHOR:

Lavrent'yev, M. A., Academician

30-12-1/45

TITLE:

The Development of Science in Siberia and in the Far East

(Razvitiye nauki v Sibiri i na Dal'nem Vostoke)

PERIODICAL:

Vestnik AN SSSR, 1957, Vol. 27, Nr 12, pp. 3-7 (USSR)

ABSTRACT:

The XX Congress of the Communist Party of the Soviet Union outlined a grandiose plan for the rapid development of the production forces in Siberia. Accordingly, Siberia is intended to be developed during the coming 10 years into the most important base for coal production, for the production of electric energy, of heat- and energy capacities, electrometallurgy, coal chemistry, electric chemistry, geochemistry - for the production of aluminum, magnesium, titanium, etc. In Siberia and in the Far East there are 75 % of the total forrest arreas of the Soviet Union. Siberia is rich in deposits and virgin soil. For this reason it is planned, besides industrialization, to develop agriculture and forestry considerably. An important part will be allotted to science. Numerous scientists received the appeal made by the party and the government, to promote and to further science in the Eastern parts of the country with enthusiasm. A group of scientists of the AN USSR suggested that a large scientific

Card 1/5

The Development of Science in Siberia and in the Far East 30-12-1/45

center be founded in Siberia, and expressed the wish to cooperate. On May 18, 1957 the Council of Ministers of the USSR accepted a resolution to organize a department of the AN in Siberia and to build a "scientific" town for this purpose near Novosibirsk. For the preparation of concrete measures an organizing committee was formed. Together with the directors of the future institutes, its members this year visited Novosibirsk, Krasnoyarsk, Irkutsk, Yakutsk, and Vladivostok. They made themselves acquainted with the state of the branches and discussed matters with the representatives of local social and economic organisations. It was also their task to select the complexes for institutes as well as to decide about their projecting and the order in which they are to be built. The project accepted by the presiding committee provides for the establishment of 13 institutes intended to comprise a whole complex of scientific problems. In this project also preliminary ideas concerning the establishment of a second scientific center in the Irkutsk area as well as concerning the creation of individual scientific institutions in other Siberian branches of the AN will be submitted. A characteristic feature of modern science

Card 2/5

The Development of Science in Siberia and in the Far East 30-12-1/45

**建设设置,在1900年间,1900年间,1900年间,1900年间,1900年间,1900年间,1900年间,1900年间,1900年间,1900年间,1900年间,1900年间,1900年间,1900年间,1900年** 

is its complexity. Today science knows no limitations or separate areas that could lead an independent life. A particular position is occupied by mathematics, but also mathematics can no longer exist without radioengineering and without the physics of solids. The isotope method extends to all fields of science. For this reason whole complexes of institutes must be established when new scientific centers are founded. It would, however, be impossible to found new institutes without the assistance of young scientists. There exists already a new generation of learned men who, although they do not yet have any academic degrees, nevertheless have carried out valuable research work. Furthermore, young people must be offered a possibility of continuing their scientific training in order to increase the number of young scientists. The creation of good libraries is of essential importance. Living conditions in the new center must be such that they not only comply with modern building methods but must also fit into the beautiful Siberian landscape. The scientific town will contain a number of institutes, the problems of which will be found in the fields of mathematics, physics, chemistry, mechanics, and other technical sciences. Besides, an institute for highfrequency

Card 3/5

The Development of Science in Siberia and in the Far East 30-12-1/45

is intended to be established, as also a university with physical, chemical, mathematical, mechanical, geological and geophysical and medicalbiological faculties for 1500 students. Near the town an experimental plant of great dimensions (intended for 1000 workman) will be established. This plant is intended to produce apparatus and devices for all institutes of the Siberian department. The living area is calculated to be able to house 15-20.000 inhabitants. The working capacity of the printing press, which will be established together with the municipal executive committee of Novosibirsk, will amount to from 6-8000 printed sheets. The library is intended to contain 4 million volumes. The committee of organization received valuable reports from the municipal administration and the party of Novosibirsk as well as from the West-Siberian branch of the AN under professor T. F. Gorbachev. The entire work was made possible only by the assistance which was rendered by the departments of the AN USSR, in particular thanks to the active work performed by the members of the Academy, N. N. Semenov, D. I. Shcherbakov, A. P. Vinogradov, L. A. Artsimovich, P. L. Kapitsa, I. V. Kurchatov, V. A. Engel'gardt and I. M. Vinogradov.

Card 4/5

# "APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928820006-6

The Development of Science in Siberia and in the Far East 30-12-1/45

AVAILABLE: Library of Congress

1. Science—Development—USSR

Card 5/5

LAVRENT'YEV, M.A.

PG - 867 CARD 1/2 USSR/WATHEWATICS/Theory of functions LAVRESTJEY W.A., SABAT B.W.

Geometrical properties of the solutions of non-linear systems SUBJECT AUTHOR

.... of partial differential equations. Doklady Akad. Wank 112, 810-811 (1957) TITLE

PERIODICAL reviewed 6/1957

In a semewhat extended sense let the system of differential equations

 $F_1(x,y,u,v,\frac{\partial x}{\partial u},\frac{\partial y}{\partial u},\frac{\partial x}{\partial v},\frac{\partial y}{\partial v})=0$ 

be strongly elliptic (compare Lawrentjev, Mat.Sbornik,n.Ser. 21, 2, (1947)). The solution.

w = f(x) = u(x,y) + iv(x,y)

of (1) is called a quasi-conformal mapping which corresponds to (1). Theorem 1: To every Riemannian surface of hyperbolic type F and to every system (1) there exists a homeomorphie, quasi-conformal mapping (2) which corresponds to (1) and which maps P onto the unit circle.
Theorem 2: Every solution w = f(z) of (1) with u = const, w = const, being

Doklady Akad. Nauk. 112, 810-811 (1957)

CARD 2/2

PG - 867

differentiable in the domain D induces a homeomorphic mapping of D onto a certain Riemannian surface. The theorems permit to extend all topological properties of analytic functions to the solutions of strongly elliptic systems (maximum principle, argument principle etc.).

## LAVRENT YEV, M. A.

"On Some Problems of Quasi-Conformal mapping."

paper submitted at International Congress Mathematicians, Edinburgh, 14 - 21 Aug 58.

EYLER, Leonard [Euler, Leonhard]; LAVRENT'YEV, M.A., red.; YUSHKEVICH, A.P., red.; GRIGOR'YAN, A.T., red.; GESSEN, L.V., red.izd-va; POLENOVA, T.P., tekhn.red.

[Leonhard Euler; a collection of articles presented to the Academy of Sciences of the U.S.S.R. in honor of the 250th anniversary of his birth] Leonard Eiler; sbornik statei v chest 250-letia so dnia rozhdeniia, predstavlennykh Akademii nauk SSR, 1958. 606 p. (MIRA 12:4)

1. Predsedatel' Eylerovskogo yubileynogo komiteta Akademii nsuk SSSR (for Lavrent'yev). (Euler, Leonhard, 1707-1783)

16(1)

### PHASE I BOOK EXPLOITATION

80V/1164

Lavrent'yev, Mikhail Alekseyevich and Shabat, Boris Vladimirovich

Metody teorii funktsiy kompleksnogo peremennogo (Methods in the Theory of a Complex Variable) 2d. ed., rev. Moscow, Fizmatgiz, 1958. 678 p. 25,000 copies printed.

Ed.: Smolyanskiy, M.L.; Tech. Ed.: Gavrilov, S.S.

PURPOSE: This book is intended for readers interested in the application to physics and engineering problems of the theory of functions of a complex variable. It can be used as a textbook by students of the physics, mechanico-mathematics and physicomathematics faculties of vtuzes and universities.

COVERAGE: The basic concepts of the theory of functions of a complex variable are given in condensed form. Only those methods of the theory of functions of a complex variable which are of great value in applications are presented. Considerable attention is given to conformal mapping and boundary value problems. Many special functions of the theory of a complex variable which are of great importance in physics and engineering are analyzed and fundamentals of operational analysis are given.

Card 1/19

2

Methods in the Theory of a Complex (Coat.)

807/1164

Theoretical presentations are supported by many illustrative examples. Many applications of the theory of functions of a complex variable to various physics and engineering problems are given. The author thanks Academician M.V. Keldysh, A.V. Bitsadze, I.G. Aramanovich, Kim Sen Yen, [initials not given] Ipatov, [initials not given] Taich, G. Yh. Stepanov, M.A. Yevgrafov, and N.N. Moiseyev for their help in preparing the book. References are given at the end of each chapter.

#### TABLE OF CONTENTS:

Preface to First Edition	7
Preface to Second Edition	9
Ch. I. Pasic Concepts 1. Complex numbers 1. Complex numbers 2. Geometric representation 2. Functions of a complex variable	12 12 14 17

Card 2/308

# "APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R000928820006-6

AUTHOR: Lavrentiyev, M.A., Academician SOV-25-58-9-2/52

TITLE: Advanced Science Moves East (Bol:shaya nauka idët na vostok)

PERIODICAL: Nauka i zhizn:, 1958, Nr 9, pp 1-4 and inside front cover (USSR)

The author outlines the plans for the future organization of Siberian industry. The final aim is to surpass the U.S.A. in all fields of industry. The government has ledded to unite the West and East Siberian branches, the cided to unite the West and East Siberian branches, the Yakutsk and Far-Eastern branches of the Academy of Sciences of USSR in one powerful organization - the Siberian Section of the Academy of Sciences. A special city will be built of the Academy of Sciences. A special city will be built of the Academy of Sciences, with living quarters for professional not far from Nevosibirsk with living quarters for professional scientists and students and ultra modern laboratories. It scientists and students and ultra modern laboratories. In March, 8 new members of 27 corresponding members of the Siberian section of the AS USSR were elected. The new 8 members berian section of the AS USSR were elected. A.I. Mallow

berian section of the AS USSK were elected. It. Ma. are: I.N. Vekua, P.Ya. Kochina, V.D. Kuznetscv, A.I. Ma. tsev, Yu.N. Rabetnov, V.S. Sobolev, A.A. Trefimuk, and A.L. Yanshin. The author tells of the projected construction of Vanshin. The author tells of the projected construction of vanshin. The author tells of the projected construction of processing plants in Bashkiriya and Tatariya, the hypothesis of which will be used to produce various plastics.

card 1/2 of numerous thermo-electric power plants is planned, because

Great Science Goes East

sov-25-58-9-2/62

of the huge reserves of cheap coal in the area. The Siberian Section of the AS will collaborate with the Chinese government in the task of industrializing the Amur River basin. The regulation of the upper parts of this river will open up new fishing and lumbering areas. The scientists also decided to shorten the way to Sakhalin island by connecting the Amur River with the Tatar Strait in the Tabo bay region. There are 4 drawings.

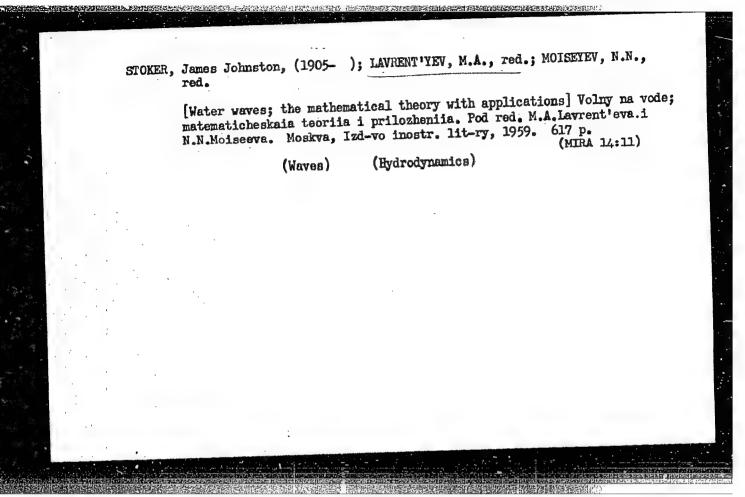
1. Industry--Siberia 2. Industry--Organization

Card .2/2

### "APPROVED FOR RELEASE: 06/20/2000

### CIA-RDP86-00513R000928820006-6

LAUREN	FRACE I EVON EXPLORMENT SON/3065	500 copies printed.	Durosows; Ed. of Publishing House: Low. Sessionship: issuessa.  Laction of articles is the third in a series intended to to collected from artificial earth satellite investigations	<b>541</b>	h. Marting all Sections of T.P. Production. On Perturbations in the Orbits of 19 Artificial Sections Comment by the Resistance of the Air S. Winnis Lib., and W.P. Belletidit. Observation of Artificial Sections in Twins to Asterior Marting Section	6. Elymphysis. Els. Secular Variations of Orbit Elements as a Function of the Beststance of the Ar	7. Learent'yav, M.A. Problem of Puncture at Commic Speeds 6. Shiltonides, and Y.G. Burt. Determination of the Density of the American Las, and M.G. Burt. Datermination of the Density of the American at an Altitude of \$50 im by the Method of Boddmarwayor Dates of 66 Americans at the Personnel and	9. Depailor, 114, and fail, surants, remains or Electrostatic Timmster of Corrects Arising at the Poil of Invite of an Electrostatic Times of Depail of Section 1	10. Milhaeyich, I.V., R.S., Parille, A.I. Sermer's and V.A., Scholor. Some mentics in Deventained the Jistofical Permericaes of the Amorphere Vith Shoth the Mal of the Third Soviet Spatch?	11. Intomin, F.G. Radio-frequency Mass Spectrumeter for Investigation of the 96	No.	13. Zomor, Ja. C. On the Freshen of Internation of an Artificial Satellite and Tries Will Washington Stein of the Earth	APAZIAMER: ifbray of Congress AC-50-59 Card 3/3	*		
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28(0) AUTHORS:

Lavrent'yev, M. A., Academician,

SOV/30-59-1-8/57

是是是特别的**们在**经验的**的**是是是一种的一种。

Chernenko, A. K.

TITLE:

Development of Science in Siberia (Razvitiye nauki v Sibiri)

PERIODICAL:

Vestnik Akademii nauk SSSR, 1959, Nr 1, pp 65-67 (USSR)

ABSTRACT:

In eastern USSR a great scientific center, the Sibirskoye otdeleniye Akademii nauk SSSR (Siberian Branch of the Academy of Sciences, USSR), is growing and developing. A plenary meeting of the Section took place in Novosibirsk, the task of which was the approval of the working scheme for 1959. More than 5,000 workers are building institutes of hydrodynamics, geology and geophysics, nuclear physics, and others. The pace of the work is still insufficient for the requirements. Scientists approved their first summarized working scheme, including the fields of physical-mathematical, technical, mathematical, and mechanical sciences. The examination of mechanical properties of polymers, the fields of heat physics and chemical sciences are also mentioned. The progas, and other deposits spects of discovering petroleum, shall also be examined. In addition, the history of the

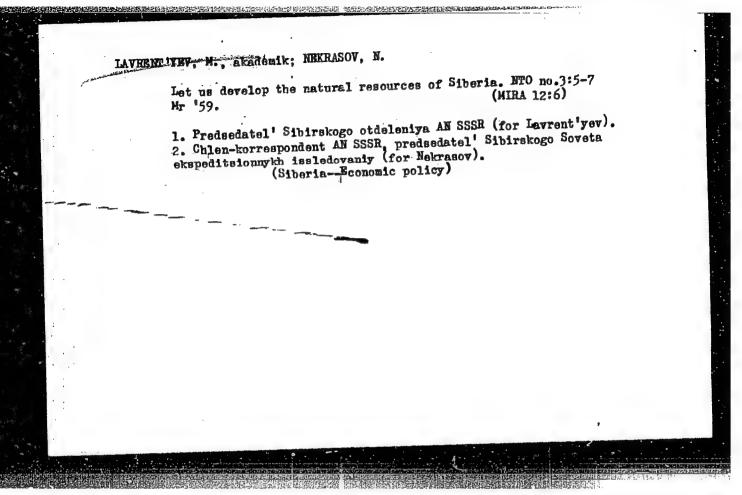
Card 1/2

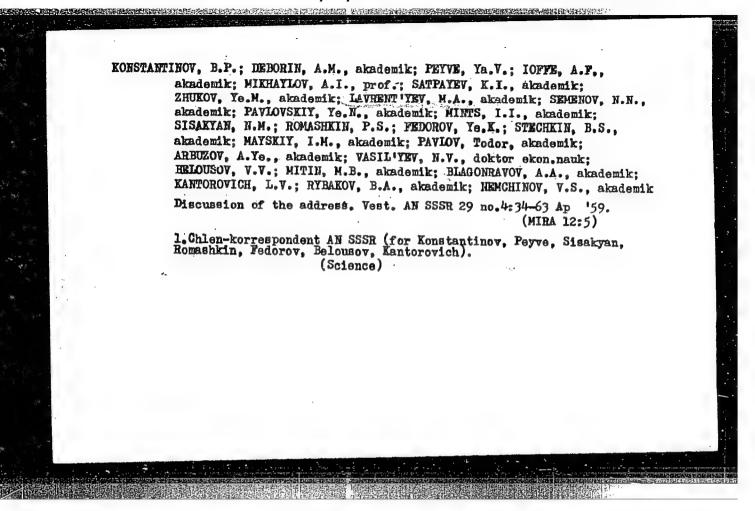
Development of Science in Siberia

SOV/30-59-1-8/57

peoples of Siberia and the Far East shall be studied. There are 5 figures.

Card 2/2





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BARDIN, I.P., akademik, glavnyy red. [deceased]; NEKRASOV, N.N., otv.
red.toma; SLAVIN, S.V., doktor ekon.nauk, red.toma; SHKOL'NIKOV,
M.G., kand.ekon.nauk, red.toma; LAVRENT'YEV, M.A., akademik, red.;
VCL'FKOVICH, S.I., akademik, red.; DIKUSHIN, V.I., akademik, red.;
NEMCHINOV, V.S., akademik, red.; VEYTS, V.I., red.; LEVITSKIY,
O.D., red.; PUSTOVALOV, L.V., red.; KHACHATUROV, T.S., red.;
ROSTOVTSEV, N.F., akademik, red.; POPOV, A.N., red.; GRAFOV, L.Ye.,
red.; GASHEV, A.D., red.; PROBST, A.Ye., prof., red.; VASYUTIN,
V.F., prof., red.; KROTOV, V.A., prof., red.; VASIL'YEV, P.V.,
doktor ekon.nauk, red.; LYUDOGOVSKIY, G.I., kand.tekhn.nauk, red.;
LETUNOV, P.A., kand.geol.-mineral.nauk, red.; MAZOVER, Ya.A., red.
izd-va; KASHINA, P.S., tekhn.red.

[Comprehensive regional and interregional problems; [conference reports]] Raionnye i mezhraionnye kompleksnye problemy; [trudy konferentsii]. Moskva, Izd-vo Akad.nauk SSSR, 1960. 190 p. (MIRA 14:1)

1. Kenferentsiya po razvitiyu proizvoditel'nykh sil Vostochnoy Sibiri. 1958. 2. Chleny-korrespondenty AN SSSR (for Nekrasov, Veyta, Levitskiy, Pustovalov, Khachsturov). 3. Sovet po izucheniyu proizvoditel'nykh sil pri Prezidiume Akademii nauk SSSR (for Nekrasov, Shkol'nikov, Slavin). 4. Predsedatel' Soveta po izucheniyu pro-izvoditel'nykh sil pri Prezidiume AN SSSR (for Nemchinov).5. Vse-soyuzneya akademiya sel'skokhozyaystvennykh nsuk im. V.I.Lenina (for Rostovtsev). 6. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Panov). (Siberia, Rastern--Economic policy)

BARDIN, I.P., skademik, glavnyy red. [deceased]; VOL'FKOVICH, S.I., akademik, otv.red.toma; UVAROV, G.V., red.toma; KOMAROV, V.P., dotsent, red.toma; LAVHENT'YEV, M.A., skademik, red.; DIKUSHIN, V.I., akademik, red.; NEMCHINOV, V.S., akademik, red.; VEYTS, V.I., red.; LEVITSKIY, O.D., red.; NEKRASOV, N.N., red.; PUSTOVALOV, L.B., red.; KHACHATUROV, T.S., red.; ROSTOVTSEV, N.F., akademik, red.; POPOV, A.N., red.; GRAFOV, L.Ye., red.; GASHEV, A.D., red.; PROBST, A.Ye., prof., red.; VASYUTIN, V.F., prof., red.; KROTOV, V.A., prof., red.; VASIL'YEV, P.V., doktor ekonom.nauk, red.; LYUDOGOVSKIY, G.I., kand.tekhn.nauk, red.; LETUNOV, P.A., kand.geol.-mineral.nauk, red.; SHKOL'NIKOV, M.G., kand.ekonom.nauk, red.; BANKVITSER, A.L., red.; izd-va; BHUZGUL', V.V., tekhn.red.

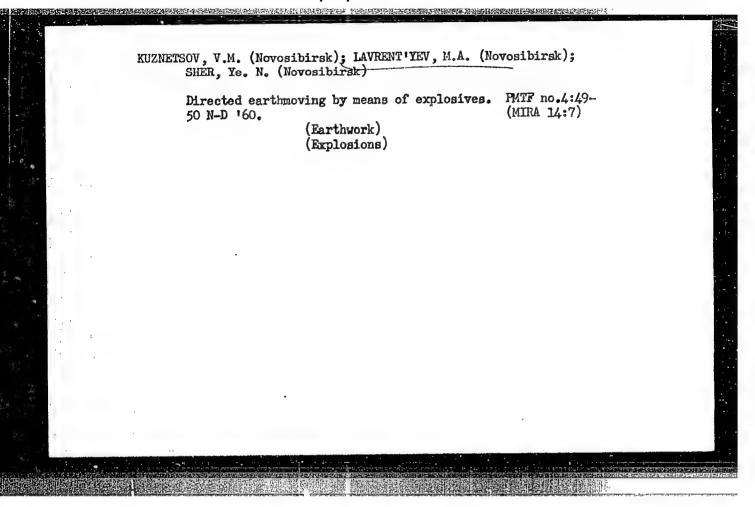
[Chemical industry] Khimicheskaia promyshlennost\*. Moskva, 1960. 202 p. (MIRA 13:7)

1. Akademiya nauk SSSR. Sovet po izucheniyu proizvoditel'nykh sil. Sibirskoye otdeleniye. 2. Chleny-korrespondenty AN SSSR (for Veyts, Levitskiy, Nekrasov, Pustovalov, Khachaturov). 3. Vse-soyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Rostovtsev). 4. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Popov). 5. Zamestitel' predsedatelya Gosplana RSFSR (for Grafov). 6. Chlen Gosplana RSFSR (for Geshev). 7. Zamestitel' predsedatelya Gosudarstvennogo komiteta Soveta Ministrov SSSR po khimii (for Uvarov). (Chemical industries)

LAVRENT'YEV, M. A. (Novosibirsk)

"The Impinging (impaction) at Cosmic Rates."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.



LAVRENT'YEV, M.A., otv.red.; MIKHAYLOV, G.K., red.; BITSADZE, A.V., red.; VEKOA, I.N., red.; DZHANELIDZZ, G.Yu., red.; LUR'YE, A.I., red.; MANDZHAVIDZE, G.F., red.; MIKHAYLOV, G.K., red.; SEDOV, L.I., red.; SOBOLEV, S.L., red.; SOKOLOVSKIY, V.V., red.; KHRISTIANOVICH, S.A., red.; SHERMAN, D.I., red.; RYVKIN, A.Z., red.izd-va; VOLKOVA, V.V., tekhn.red.

[Problems in the mechanics of solids] Problemy mekhaniki sploshnoi sredy; k semidesiatiletiiu akademika N.I.Muskhelishvili. Moskva, 1961. 577 p. (MIRA 14:3)

1. Akademiya nauk SSSR.
(Mechanics, Analytic) (Elastic solids)

		Congress, Ecnolals, Havait 21 Aug-	DESCRIPTION, A. G., KUNINGOL, A., and REDGOL, J., S., Morrow Gatts Deliverately, Provided Reading of The of Mainte Privates and Yearnia Markers - On the calculation of The of Frincis Privates and Yearnia Markers - On the calculation of The of Frincis Privates and Yearnia Markers - On the calculation of The of The Privates and Yearnia Markers - On the Calculation of The One of The Markers of the Particle Markers - On the Calculation of The One of The Markers of the Particle Markers - On the Calculation of the One of Markers of the Particle Markers of Markers of Markers and the One of Markers of the Particle Markers of Markers of Markers and the One of Markers of the Particle Markers of the Markers of Canadia of the Canadia of the Markers of Markers o
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			LAURENT YEV, M.A.

8/030/61/000/004/006/015 B105/B206

AUTHOR:

Lavrent'yev, M. A., Academician, Chairman (see Association)

TITLE:

Siberian Department

PERIODICAL:

Vestnik Akademii nauk SSSR, no. 4, 1961, 60-63

TEXT: On January 13, 1961, the Plenary Session of the Sibirskoye otdeleniye (Siberian Department) was held at Novosibirsk, and its Chairman, Academician M. A. Lavrent'yev, mentioned the results of the scientific institutions for 1960. At the end of the last year, the Department consisted of 3 institutes for comprehensive studies and 27 specialized institutes, 3 branches, 6 observatories and independent laboratories, as well as the Tsentral'nyy botanicheskiy sad (Central Botanical Garden). Beside the scientific center in Novosibirsk, the scientific systems in Vostochnaya Sibir' (East Siberia) and Dal'niy Vostok Soviet Far East were also developed. The intensity of cosmic rays and the physical processes of the sun were studied at the Yakutskiy filial (Yakutsk Branch) and Dal'nevostochnyy filial (Soviet Far East Branch), Vostochno-Sibirskiy filial (East Siberian Branch). The Institut gidrodinamiki (Institute of Hydrodynamics) jointly with the East

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Siberian Branch, elaborated proposals for combatting cold-brittleness of machines and constructions. The Institut fiziki (Institute of Physics) studied structure and magnetic properties of substances. The institut Khimicheskoy kinetiki i goreniya (Institute of Chemical Kinetics and Combustion), institut Teoreticheskoy i prikladnoy mekhaniki (Institute of Theoretical and Applied Mechanics), Transportno-energeticheskiy Institut (Institute of Transportation and Power Engineering) investigated the problems of combustion processes, turbulent combustion, the combustion of condensed systems, and studied high-pressure and high-temperature furnaces for steam, gas turbines. Heat exchange, thermodynamic and thermophysical properties of substances were studied at the Institut teplofiziki (Institute of Thermophysics). The establishment of the Vychislitel'nyy tsentr (Calculation Center) at the Institut matematiki (Institute of Mathematics) was of great influence on mathematical studies. Jointly with the Institut kataliza (Institute of Catalysis), contact apparatus for the production of sulfuric acid were calculated by means of an electronic computer. The properties of anisotropic superconductors were studied at the Institut radiofiziki i elektroniki (Institute of Radiophysics and Electronics) and the passage of ultrashort waves at the Buryatskiy kompleksnyy nauchno-

Card 2/5

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issledovatel'skiy institut (Buryatekiy Scientific Research Institute for Comprehensive Studies). The design of an automatic production line for the manufacture of sections of electrolytic capacitors was elaborated at the Institut avtomatiki i elektrometrii (Institute of Automation and Electrometry). The problem of rock pressure was studied at the Institut gornogo dela (Mining Institute). Prototypes of impulse hydroelectric installations for a pressure up to 800-1000 kg/cm2 were built at the Institut gidrodinamiki (Institute of Hydrodynamics). The model of a vibroshute of the type BK-3 (VZh-3) (vibrozhelob) was designed at the Yakutsk Branch. A class of complex compounds, called by Academician N. S. Kurnakov "imaginary compounds", was discovered at the Institut neorganicheskoy khimii (Institute of Inorganic Chemistry). Problems of the formation of natural salts in lakes were solved at the Khimiko-metallurgicheskiy institut (Institute of Chemistry and Metallurgy). New data on the isolation of aromatic compounds were obtained at the Novosibirskiy institut organicheskoy khimii (Novosibirsk Institute of Organic Chemistry). Free radicals in solid bodies were studied at the Institut khimicheskoy kinetiki i goreniya (Institute of Chemical Kinetics and Combustion). At the Institut geologii i geofiziki (Institute of Geology and Geophysics), the petroleum- and gas deposits of Card 3/5

S/030/61/000/004/006/015 B105/B206

the front depression of the Vitimo-Patomskaya folding system and the Gilyako-Abukanskaya zone of the Sakhalin mountain ranges were determined. Ancient diamond fields were discovered in Zapadnaya Yakutiya (West Yakutiya) as well as in the basin of the river Belaya. Studies were finished on the stratigraphy of the late Pre-Cambrian and the carly Paleozoic of the USSR, the Jurassic and cretaceous systems of the Arctic, the Cambrian of the Sibirskaya platforma (Siberian Platform) and the upper cretaceous layer of the Chulymo-Yeniseyskaya depression. The Kamchatka Geological-geophysical Observatory studied the active volcanoes of the Kamchatka and the properties of tectorics and seismism of the Pacific Zone. The Institut biologii i meditsiny (Institute of Experimental Biology and Medicine) investigated the hypertonia of the "small circle" (malyy krug). The process of the synthesis of nucleinic acids and proteins was developed at the Institut tsitologii i genetiki (Institute of Cytology and Genetics). Problems of fertilizing were investigated at the Biologicheskiy institut (Biological Institute). The Institut ekonomiki i organizatsii promyshlennogo proizvodstva (Institute of Economics and Organization of Industrial Production) studied the problem of manpower reserves. The transfer of the scientific collaborators of the Institut yadernoy fiziki (Institute of Nuclear Physics) and the Institut teplofiziki (Institute of Thermal Physics) Card 4/5

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to Novosibirsk is to be concluded in 1961. Academician S. L. Sobolev reports on "Utilization of electronic computers for reading Maya manuscripts". This study was made at the computer Center.

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ASSOCIATION: Sibirskoye otdeleniye (Siberian Department) [Abstracter's note: Name of Association was taken from first page of journal.]

Card 5/5

PHASE I BOOK EXPLOITATION

SOV/6011

Lavrent'yev, Mikhail Alekseyevich, Academician

Variatsionnyy metod v krayevykh zadachakh dlya sistem uravneniy ellipticheskogo tipa (Variational Method in Boundary-Value Problems for Systems of Equations of the Elliptic Type) Moscow, Izd-vo AN SSSR, 1962. 135 p. 4000 copies printed.

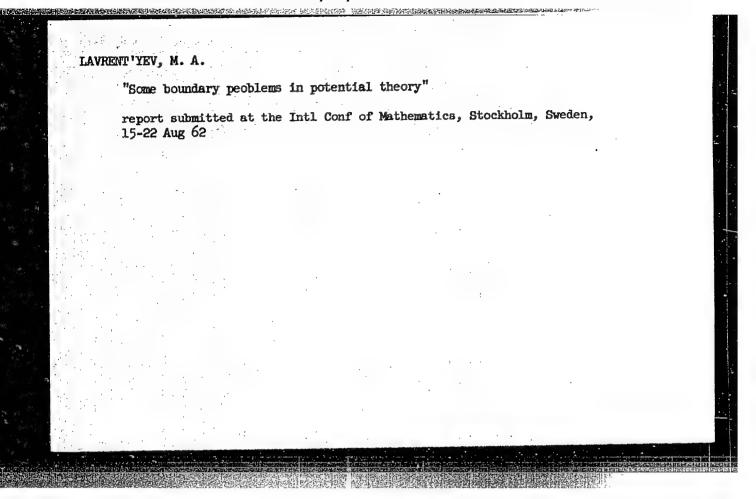
Sponsoring Agency: Akademiya nauk SSSR. Sibirskoye otdeleniye.

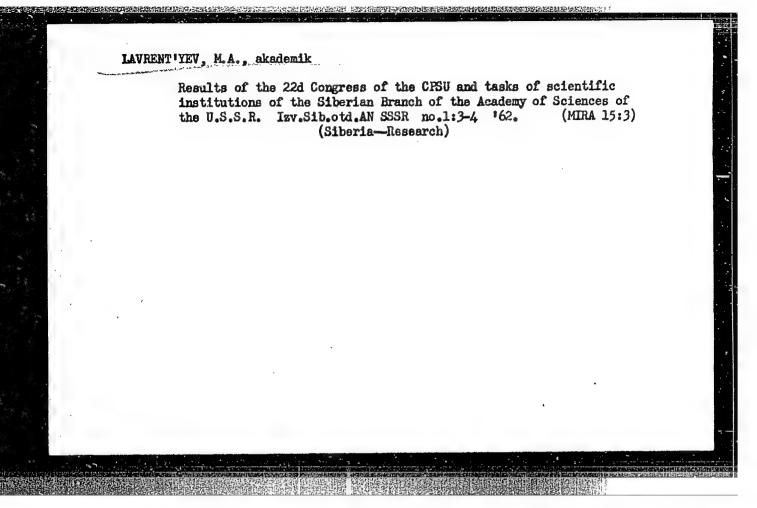
Ed. of Publishing House: B. V. Shabat; Tech. Ed.: P. Polenova.

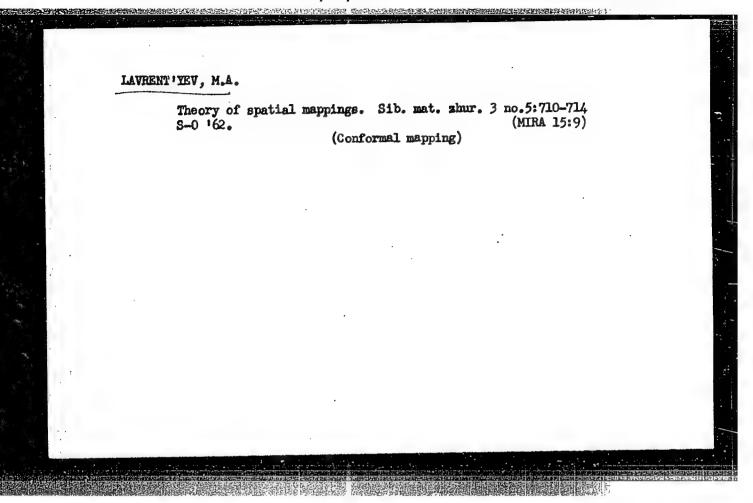
PURPOSE: This book is intended for mathematicians and engineers concerned with the solution of theoretical problems.

COVERAGE: The methods presented in this book are based on a number of geometrical properties of conformal and quasi-conformal mapping and use the general-principle scheme of solution of variational problems first introduced by D. Gilbert and developed largely by L. Tonelli. The method stands on the boundary between classical methods of analysis, with their concrete estimates, and the approximate formulas and methods of the theory of functions of a real Card 1/2

SOV/6011 Variational Method in Boundary-Value Problems (Cont.) variable. The book is so planned that it will be of interest to mathematicians as well as to mechanical engineers, who are remote from the theory of functions. According to the Preface, the author has made no attempt to present the details of the proofs at length, and, in some cases, has limited himself to general ideas. Maximum generalizations of assumptions have not been attempted, and problems connected with delicate theoretical-functional considerations have been omitted. The author thanks Professor V. V. Shabat. There are 77 references: 53 Soviet (4 translations), 12 English, 9 French, and 3 German. TABLE OF CONTENTS: 3 Preface 5 Introduction 5 1. Variational principle 2. Sufficient conditions 10 Generalizations Card 2/4







16.3000

40719 \$/199/62/003/005/003/004 B112/B186

AUTHOR: Lawrent

Lavrent yev, A. M.

TITLE: On certain boundary value problems for systems of the elliptic type

PERIODICAL: Sibirskiy matematicheskiy zhurnal, v. 3, no. 5, 1962, 715-728

TEXT: Plane and spatial hydrodynamical problems are investigated. In the plane case, solutions

 $W = f(z, \Gamma_0, \Gamma)$  (2)

of strongly elliptic systems

 $F_{1}(x,y,u,v,u_{x},u_{y},v_{x},v_{y}) = 0$   $F_{2}(x,y,u,v,u_{x},u_{y},v_{x},v_{y}) = 0$ (1)

are considered, which map a domain  $D(f_0,f)$  bounded by the curves  $f_0$  and f quasi-conformally onto an interval 0 < v < h of the plane w = u + iv. In

Card 1/3

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On certain boundary value ...

addition, it is assumed that u tends to infinity if x tends to infinity and that the condition u=0 at the point x=0 of the curve  $\Gamma_0$  is fulfilled. For certain classes of systems (1), the existence and uniqueness of the solution to the following principal problem are proved: The curves  $\Gamma_0$  and  $\Gamma_1$  being given for  $x < x_0$  and  $x < x_1$ , respectively; such continuations of these curves are sought that the mapping w=f(z) fulfills the relations

 $\chi_{o}(V,\alpha,x,y) = 0; \ \chi_{1}(V,\alpha,x,y) = 0$  (5)

on the continuations.  $\chi_0$  and  $\chi_1$  are given functions of the arguments  $V = \sqrt{u_X^2 + u_y^2}$ ,  $\alpha, x, y$ , where  $\alpha$  is the inclination of  $\Gamma$  in the point x, y. In the spatial case, homeomorphic differentiable mappings u = u(x, y, z), v = v(x, y, z), w = w(x, y, z) are sought, which satisfy a system of equations  $F_1(x, y, z, u, v, w, u_x, u_y, u_z, \dots, w_z) = 0$  (i = 1,2,3). (11)

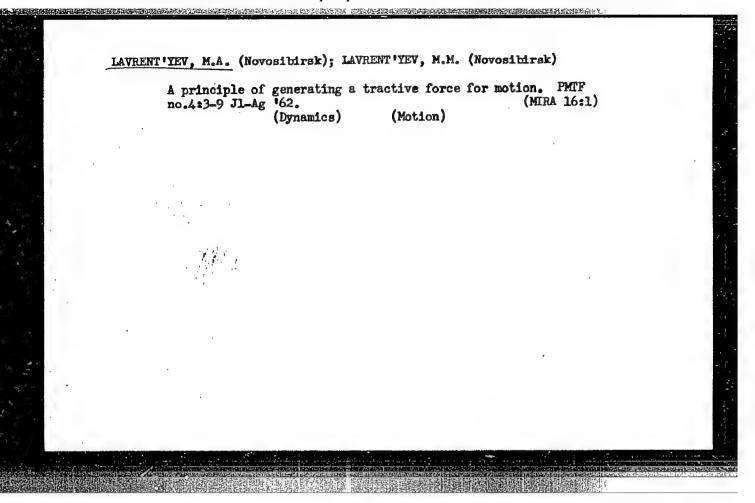
Certain classes of systems (11) (harmonical mappings) for which Riemann's Card 2/3

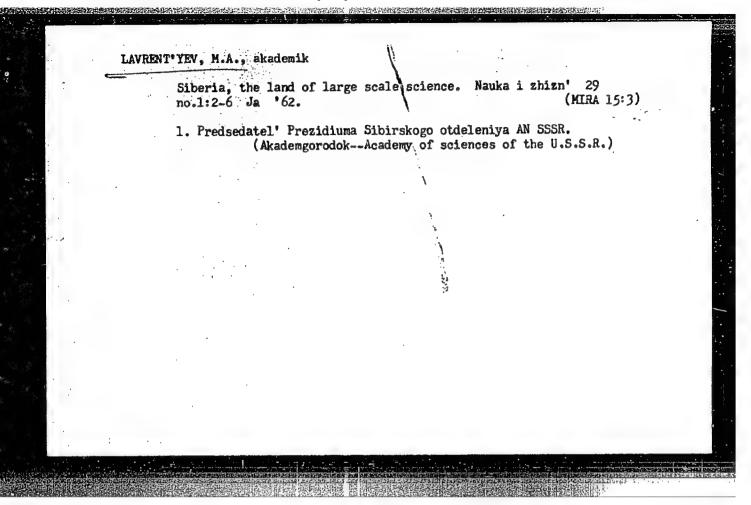
On certain boundary value ...

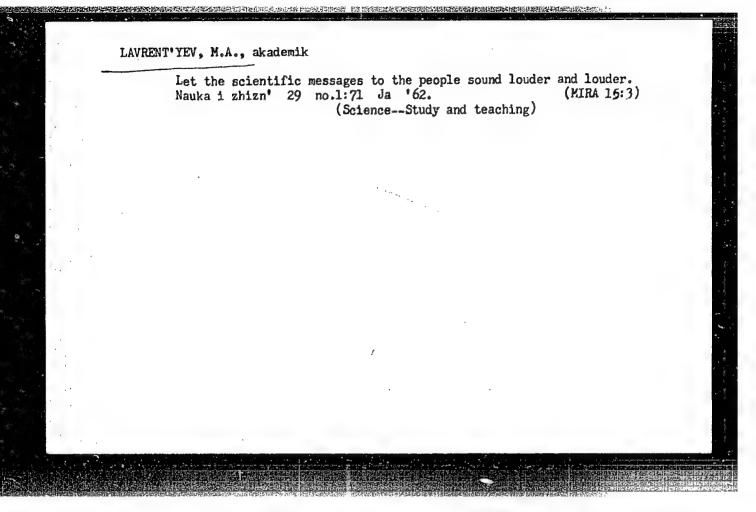
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problem is unambiguously solvable are selected. Determining the solution is reduced to the determining a potential u which describes the motion of a fluid between two surfaces  $\Gamma_0$  and  $\Gamma$ . Approximate expressions for the boundary derivatives of the mapping are derived. There is 1 figure.

Card 3/3





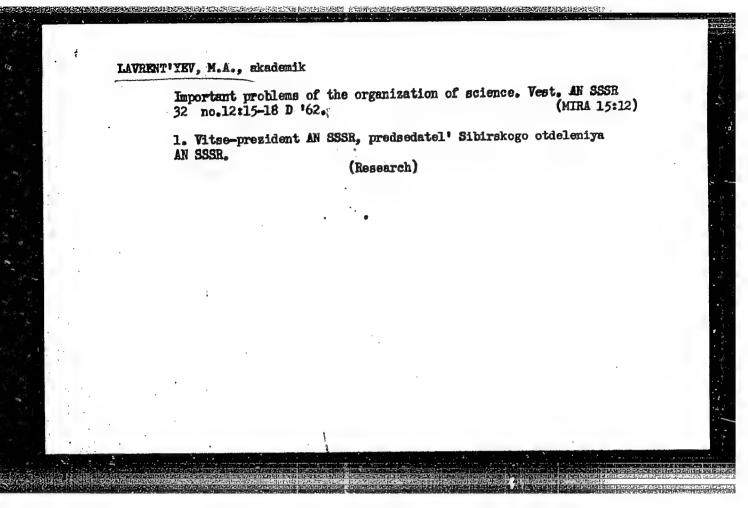


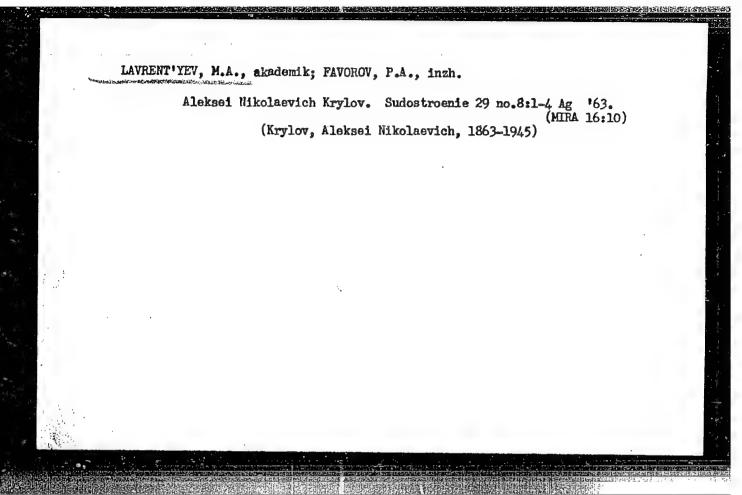
BUDKER, A.M.; LYAPUNOV, A.A., prof.; LAVRENT'YEV, M.A., akademik; VEKUA, I.N., akademik; MIGIRENKO, G.S., prof.; ZHURAVLEV, Yu.I., kand.fiziko-matem. nauk

Birth of a new method for the training of young scientists. Tekh.mol., 30 no.11:14-17 '62. (MIRA 16:9)

1. Chlen-korrespondent AN SSSR (for Budker). 2. Predsedatel' Sibirs-kogo etdeleniya AN SSSR (for Lavrent'yev). 3. Rektor Novosibirskogo universiteta (for Vekua). 4. Sekretar' partiynege komiteta Sibirs-kogo otdeleniya AN SSSR (for Migirenko). 5. Chlen TSentral'nogo komiteta Vseseyuznogo Leninskogo Kommunisticheskogo soyuza moledezhi (for Zhuravlev).

(Science—Study and teaching)
(Siberia—Academy of Sciences of the U.S.S.R.)





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49

ACCESSION NR: AP3006119

8/0207/63/000/004/0003/0016

AUTHOR: Krasovskiy, Yu. P.; Lavrent'yev, M. A.; Moiseyev, N. N.; Ter-Krikorov, A. M.; Shabat, A. B. (Novosibirsk, Moscow)

TITLE: Mathematical problems of the hydrodynamics of a liquid with free boundaries

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 4, 1963, 3-16

TOPIC TAGS: liquid-motion theory, free boundary, free-stream flow, discontinuous flow, wave phenomenon, standing wave, three-dimensional flow, Froude number, gravitational wave, Cauchy-Poisson wave

ABSTRACT: The article reviews Soviet publications of the last four years dealing with investigations in the theory of the motion of a liquid with free boundaries. Data available from the authors' survey reports presented at the IV Vsesoyuzny\*y matematicheskiy s"yezd (4th All-Union Mathematical Congress) in Moscow in 1958 are used in this paper. New models of free-stream and discontinuous flows are presented and discussed. Approximate methods for investigating wave phenomena, based on the asymptotics of solutions, are reviewed, and exact solutions of problems related to the theory of gravitational waves are analyzed. Attention

Card 1/2

ACCESSION NR: AP3006119

is directed to the basic problems of the theory of waves, such as those of flows with Froude numbers less than unity in the case of flow past an obstacle, of the theory of waves "in the large," of the theory of three-dimensional flows, and of the complex theory of unsteady waves, for example, periodic (standing) and Cauchy-Poisson waves, for which there is still no rigorous method. Orig. art. has: 12 'figures and 15 formulas.

ASSOCIATION: none

SUBMITTED: 10Apr65 DATE ACQ: 11Sep65 ENCL: 00

SUB CODE: AI NO REF SOV: 026 OTHER: 005

LAVRENT'YEV, M.A., akademik; KUDRYAVTSEV, L.D., doktor fiz.-matem.nauk

World Congress of Mathematicians. Vest.AN SSSR 33 no.4:78-81
Ap '63.

(MIRA 16:4)

(Mathematics-Congresses)

POSPELOV, P.N., akademik; SMIRNOV, V.S.; LAVRENT'YEV, M.A., akademik;
GAFUROV, B.G.; KEDROV, B.M.; DUBROVSKIY, S.M., doktor istor.nauk;
KONSTANTINOV, F.V.

Discussion of the report. Vest. AN SSSR 33 no.8:29-39 Ag '63.
(MIRA 16:8)

1. Chleny-korrespondenty AN SSSR (for Smirnov, Gafurov, Kedrov,
Konstantinov).

(No subject heading)

LAVRENT'YEV, M.A., akademik

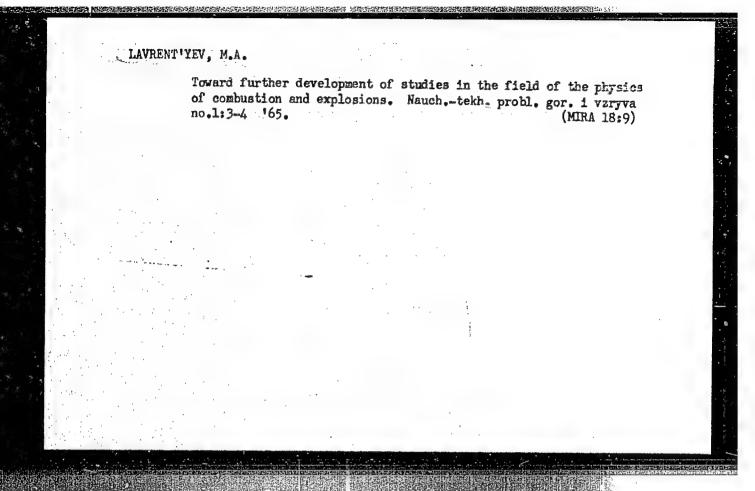
Development of science in the East of the U.S.S.R. Vest. AN SSSR 34 no.6:3-11 Je \*64 (MIRA 17:8)

1. Predsedatel Sibirskogo otdeleniya AN SSSR.

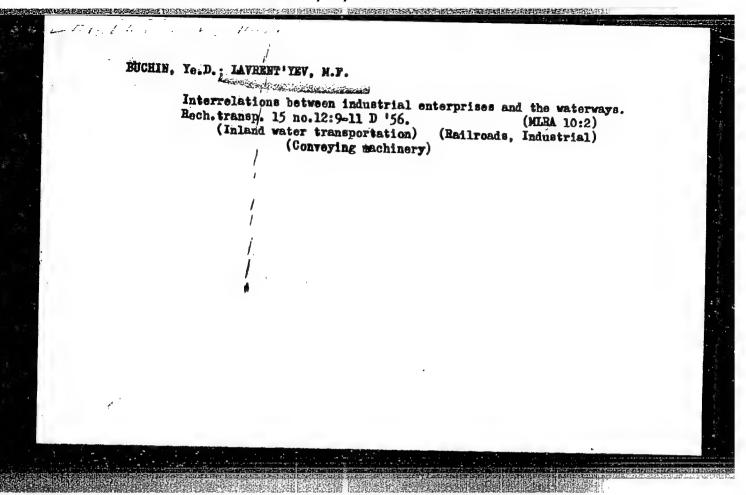
# LAVRENT 'YEV, M.A. Theory of mappings of three-dimensional regions. Sib. mat. zhur. 5 no.3:596-602 My-Je '64. A sewing problem. Ibid.:603-607 (MIRA 17:6)

LAVEENT'YEV, Mikhail Alekseyevich; SHABAT, Boris Vladimirovich; SYOTYANSKIY, M.L., red.

[Methods in the theory of functions of complex variables]
Metody teorii funktsii kompleksnogo peremennogo. Izd.3.,
ispr. Moskva, Nauka, 1965. 716 p. (MIRA 18:6)



ACC NR:	6 ''' ÉMP(m)/EWT(1)/EWT(m)/T AP6019384	SOURCE CODE: UR/0040/66/030/001/01	177/0182
	Lavrent'yev, M.A. (Novosit	oirsk)	53 B
	Problems of fluid motion pa	ast free surfaces	
SOURCE:	Prikladraya matematika i m	nekhanika, v. 30, no. 1, 1966, 177-182	
	GS: jet flow, fluid flow,	viscosity	
ideal. case, a dimension author viscosid l. The 2. The flow of mensural the jet	Jets of finite width past The author devotes his mai Ithough he points out the p onal problems as well. In uses these schemes, as well ty, to explain the followin stability of a light (ping effect first discovered by a jet past a cylinder in we ble with the dimensions of does not pass through the eleration of the bottom par	rticle considers two schemes for the bodies. The fluid is assumed to be a attention to the two-dimensional possibility of considering three—the second half of the article the as a qualitative calculation of ag two phenomena: -pong) ball in a thin vertical jet; M. A. Gol'shtik in the case of the which the width of the jet is comthe body and the horizontal axis of horizontal axis of the cylinder: viz., tof the cylinder is in a direction Orig. art. has: 5 figures and 1 formulations.	la. Zprs/
SUB CO	DE: 20/ SUBM DATE: 120cd	i65 /	



LAVRENTYEV, MF.

STULOV, N.N.; SHAFRANOVSKIY, I.I.; MOKIYEVSKIY, V.A.; POPOV, G.M.; BETEKHTIN, A.G.; NIKOLAYEV, V.A.; ANSHELES, O.M.; GRIGOR'YEV, D.P.;
YEROFEYEV, B.N.; TATARSKIY, V.B.; SOLOV'YEV, S.P.; HIKITIN, V.D.;
RUDERKO, S.A.; DUBININA, V.H.; ALYAVDIN, V.F.; VIADIMIROV, B.N.;
KAZITSYN, YU.V.; FRANK-KAMENETSKIY, V.A.; KALININ, A.I.; BALASHOVA, M.N.; SAL'DAU, E.P.; DOLIVO-DOBROVOL'SKAYA, G.M.; LAVRENT'YEV, M.F.

Viktor Ivanovich Mikheev, Zap. Vees, min. ob-va 86 no.2:317-320
'57.

(Mikheev, Viktor Ivanovich, 1912-1956)

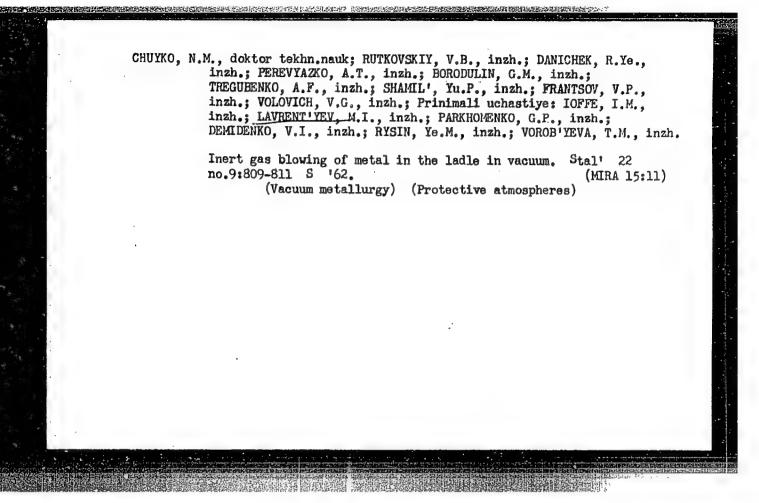
Increase lumber transportations by mixed railroad-waterway communications. Rech.transp. 18 no.12:11-14 D '59.

(MIRA 13:4)

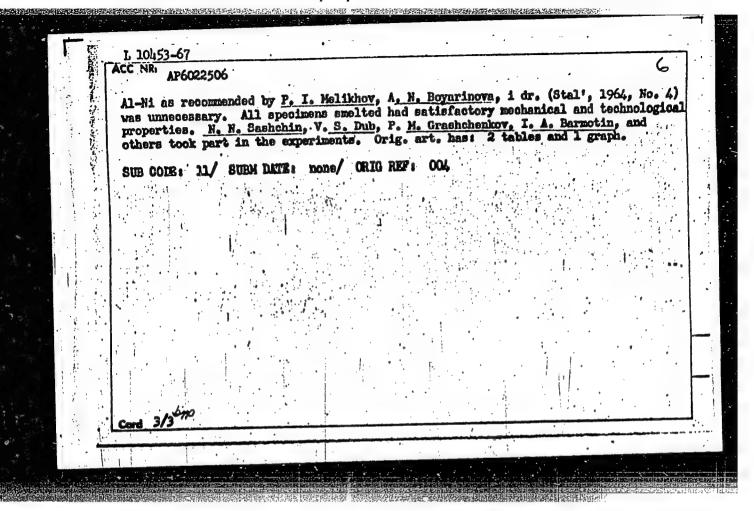
1. Zamestitel' glavnogo dispetchera Volzhskogo ob"yedinenmogo rechnogo parokhodstva (for Lavrent'yev).

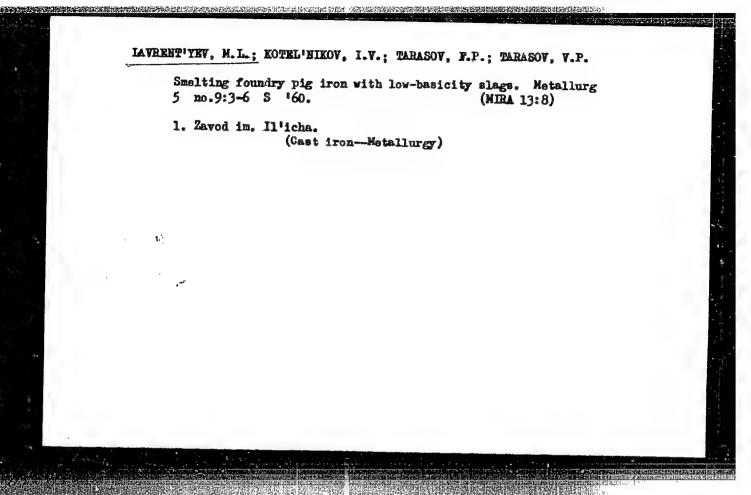
(Lumber--Transportation) (Inland water transportation)

(Railroads--Freight)



1	ACC NRI AP6022506	•	SOURCE CODE: UR/0133/66/000 technical sciences); Gabuy	38 11	
	Smolvakov. V. F.1	Frantsov, V. P.; Grayfer Yelinson, G. L. (Engineer	Ye. Z.; Spektor, Id. J.;	Levrent vev.	
	ORG: none		•		
	TITLE: Manufactu	re of high-alloy steels w	ith normalized phase compos	ition	
		no, 4, 1966, 323-326		242010 . 23	
	TOPIC TAGS: allo	y steel, chromium steel a lloy steel, Khl8N9 plloy	lloy, high alloy steel / Ki steel, 04Kh17N10H2 alloy st	teel /	
	ABSTRACT: The po	ossibility of obtaining st	ainless steels and intermed on (1 - 5% ferrite) under	diate type	
	ditions was studi	led. The experiments were	of fresh steel and scrap	metal respec-	
a constitution	ditions was studi 5—50 tons capaci tively. The	led. The experiments were ity, on charges consisting -phase content in the ste ions. The phase compositi	o carried out in electrical of fresh steel and scrap i bels was maintained by chro lon was determined after the	metal respec- mium, nickel, e method of S.	_
1114	ditions was studing 5-50 tons capacitively. The oxide and carbon additional and an applicable and carbon additional and applicable at a studies.	led. The experiments were ity, on charges consisting -phase content in the ste ions. The phase compositi d N. N. Sashchin (Trudy Ts I'makh otlivok). ONTI TsNI	o carried out in electrical of fresh steel and scrap is sels was maintained by chrom lon was determined after the NIITMASha No. 13 (Vyplavka ITMASh. 1960). The experis	metal respec- mium, nickel, e method of S. stali i mental results	
	ditions was studing 5-50 tons capacitively. The oxide and carbon additional and an applicable and carbon additional and applicable at a studies.	led. The experiments were ity, on charges consisting -phase content in the ste ions. The phase compositi d N. N. Sashchin (Trudy Ts I'makh otlivok). ONTI TsNI	o carried out in electrical of fresh steel and scrap is els was maintained by chronion was determined after the NITITMASha No. 13 (Vyplayka	metal respec- mium, nickel, e method of S. stali 1 mental results alloying with	

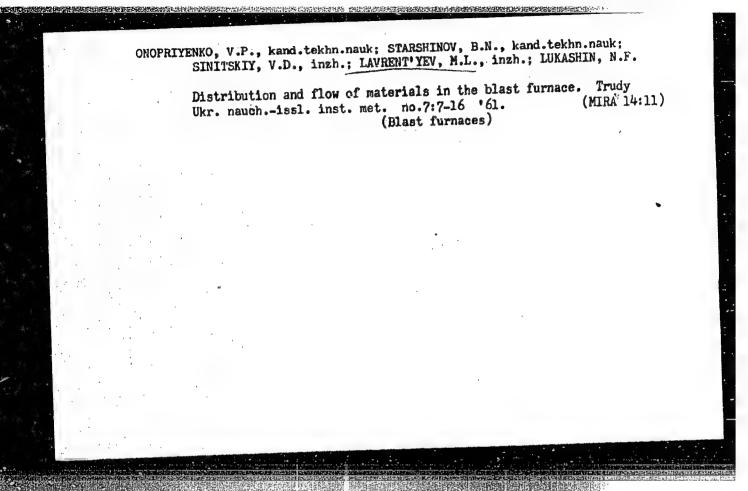




STARSHINOV, B.N., kand.tekhn.nauk; SINITSXIY, V.D., inzh.; KOTEL'NIKOV,
I.V.; LAVERHT'YEV, M.L..

Slag formation in blast furnaces operating at high pressures.
Stal' 21 no. 1:12-17 Ja '61. (NIRA 14:1)

1. Ukrainskiy institut metallov i zavod im.Il'icha.
(Blast furnaces) (Slag)



STARSHINOV, B.N.; KOTEL'NIKOV, I.V.; SINITSKIY, V.I.; LAVRENT'YEV, M.L.

Blast furnace operation with an addition of natural gas to the blow.

Metallurg 6 no.7:4-8 Jl '61. (MIRA 14:6)

1. Zavod im. Il'icha i Ukrainskiy institut metallov.

(Mast furnaces)

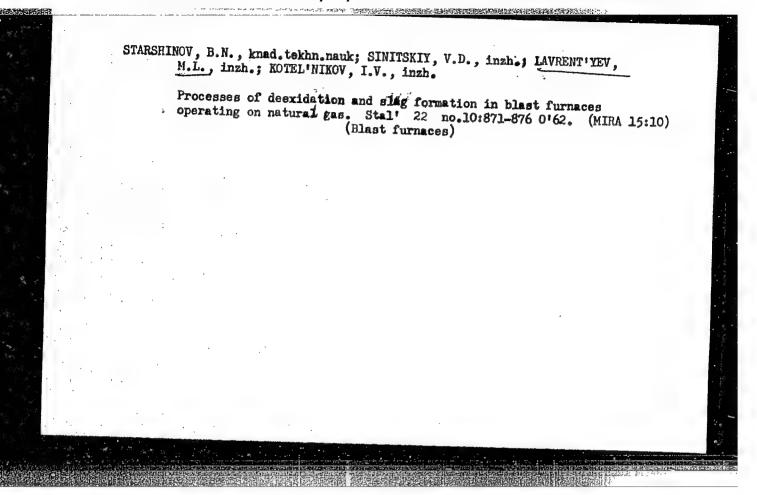
Pulsation of the flame of air-heating burners. Metallurg 6 no.8:6-7 Ag '61. (MIRA 14:8)

Zhdanovskiy zavod im. Il'icha.
 (Air preheaters) (Blast furnaces)

POKHVISNEV, A.N., doktor tekhn.nauk, prof.; TARASOV, V.F., inzh.;
TARASOV, F.P., inzh.; KOTEL'NIKOV, I.V., inzh.; LAVRENT'YEV, M.L.,
inzh.

New charging equipment for blast furnaces. Stal' 22 no.1:16-17
Ja'62. (MIRA 14:12)

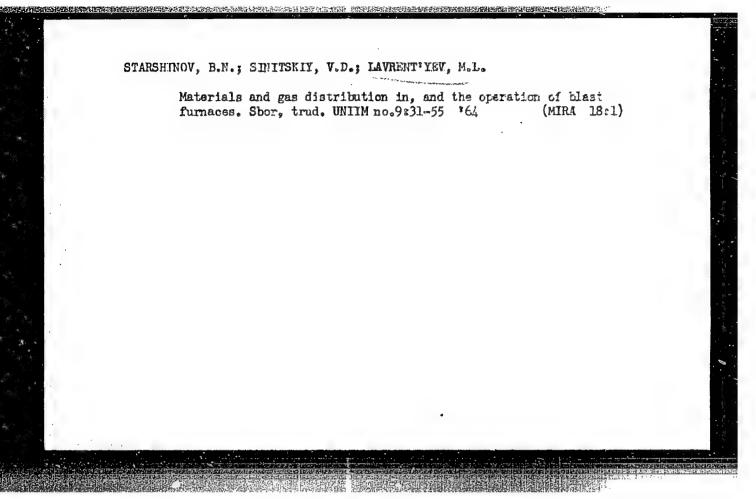
1. Moskovskiy institut stali i Zhdanovskiy zavod imeni Il'icha.
(Blast furnaces--Equipment and supplies)

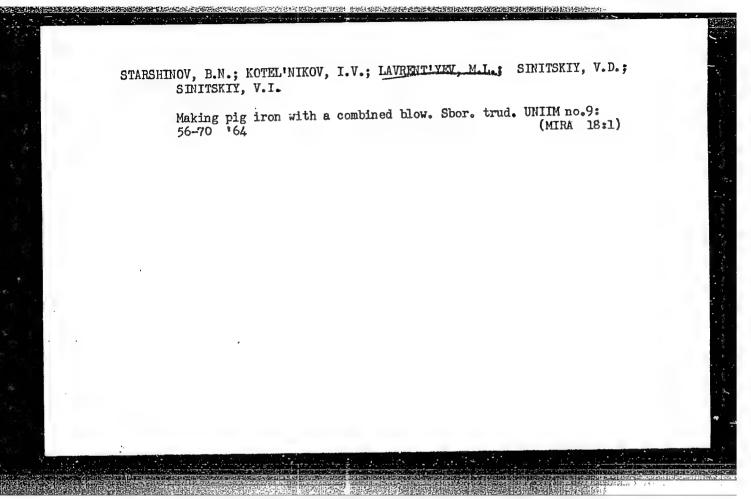


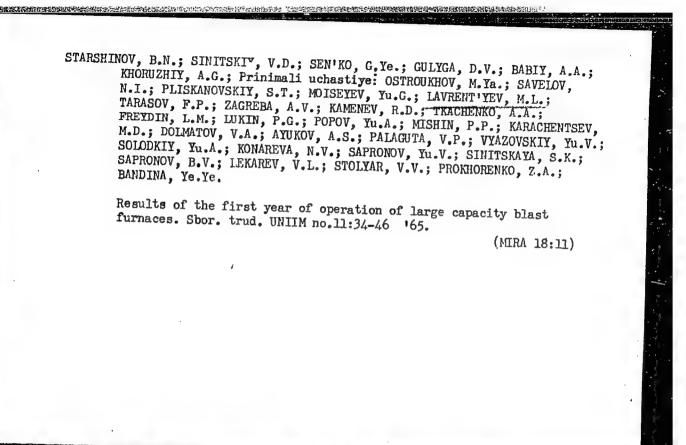
LAVRENT'YEV, M.L.; POPOV, A.P.; FOMIN, V.B.; LUKASHIN, N.F.; YEFREMENKO, O.K.

Highly efficient method of iron desulfuration outside a blast furnace. Met. i gornorud. prom. no.4:10-11 JI-Ag :64.

(MIRA 18:7)







STARSHINOV, B.N.; SINITSKIY, V.D.; LAVRENT'IEV, M.L.; KHORUZHIY, A.G.;

TARASOV, F.P.; VIAZOUSKIY, Tu.V.

Investigating processes in the hearth of a 1719 m<sup>3</sup> capacity
blast furnace. Shor.trud. UNIIM no.11848-55 <sup>265</sup>.

(MIRA 18811)

LAVRENT'YEV, M.L.; FOMIN, V.B.; POPOV, A.P.; SINITSKIY, V.D.; YEFREMENKO, O.K.; LÜKASHIN, N.F.

Pesulfurizing cast iron with lime in special equipment. Shor. trud. UNIIM no.Jl:80-39 765.

(MIRA 18:11)

LAVRENT YEV, M. M.

USSR/Mathematics - Approximation accuracy

FD-452

Card 1/1

: Pub. 64 - 4/11

Author

: Lavrent'yev, M. M. (Moscow)

Title

: Accuracy of solution of systems of linear equations

Periodical

: Mat. sbor., 34 (76), 259-268, Mar/Apr 1954

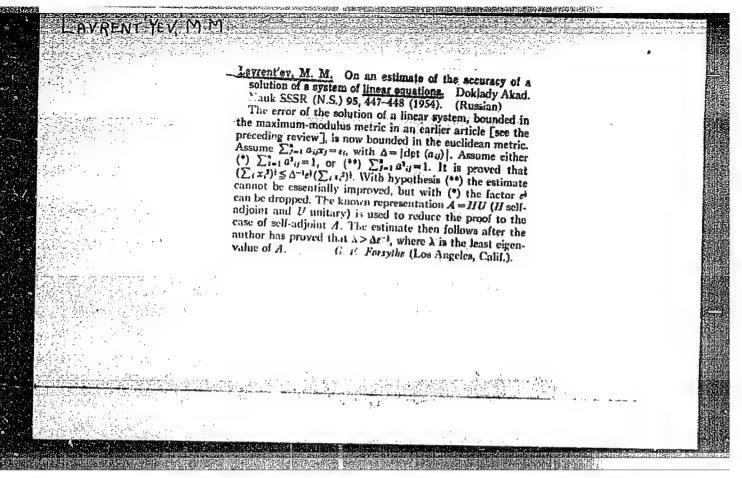
Abstract

: Demonstrates relations between the absolute value of the vector error  $\Delta$  r and the average error of the coefficients in the linear vector system ax = b, where r is the solution vector. Presents a method for increasing the accuracy of solution of ax = b when a and b are known approximately and if the solution of the system is known to be smooth (that is, the inequality  $|x_i - x_{itl}| \le k/n$  holds).

Institution

Submitted

: February 24, 1953



LAVRENTYEY M	Maria de la companya
	Lavrent'ev, M. M. On Cauchy's problem for Laplace's 1-F/
	Let the function $u(x, y)$ be harmonic in the strip $0 \le y \le 1$ and satisfy the following condition: $u(x, 0) = 0$ ; $u(x+2k\pi, y) = u(x, y)$ ; $u(-x, y) = u(x, y)$ ; $u(k\pi, y) = 0$ ; $ u(x, y)  < M$ ; and $\frac{\partial u(x, 0)}{\partial y} = m(x)$ . Further, let the
	sequence of functions $w_n(x, y)$ , defined in the same strip, satisfy the first four of the foregoing conditions and also $\partial w_n(x, 0)/\partial y = \varphi_n(x)$ , where $\varphi_n(x)$ converge uniformly to $\varphi(x)$ as $n \to \infty$ . It is shown that if $w_n(x, y)$ satisfies the partial differential equation
	$\frac{\partial^{2m} w_n}{\sigma_n} = \frac{\partial^2 w_n}{\partial x^{2m}} = \frac{\partial^2 w_n}{\partial x^2} + \frac{\partial^2 w_n}{\partial y^2}$
	then, for some values of the $\varepsilon_n$ , the sequence of functions $w_n(x, y)$ must converge to the harmonic function $u(x, y)$ . An analogous reasoning shows that if the $\varepsilon_n$ all vanish, that is, if the $w_n(x, y)$ are harmonic, then the sequence converges to $u(x, y)$ provided that we omit the hypothesis that the functions vanish on the $\tau$ axis.
	E. F. Beckenbach (Los Angeles, Calif.)

PG - 772

LAYRENTYEY, M.M.

SUBJECT AUTHOR USSR/MATHEMATICS/Differential equations CARD 1/1

LAVRENTJEV M.H.

TITLE

On the Cauchy problem for the Laplace equation.

PERIODICAL

Izvestija Akad. Nauk 20, 819-842 (1956)

reviewed 5/1957

A function which is harmonic in a bounded domain is determined from its values and the values of its derivative with respect to the normal on a piece of the boundary of the domain. At first the plane problem is considered, the author brings results of Carleman which relate to this problem and he proposes an effective method of solution basing on Carleman's formula. Then the stability of the plane problem is proved in an other metric and a method for the approximative solution of the problem is given. In the second chapter of the paper the spatial problem is considered. The author gives estimates which characterize the stability of the problem in the class of bounded solutions. An effective method of solution is proposed here too which also can be used in the plane case.

LAVRENT YEV, M.M.

USSR/MATHEMATICS/Differential equations

PG - 403 CARD 1/2

SUBJECT AUTHOR ..

LAVRENT'BY M.M.

TITLE PERIODICAL On a boundary value problem for a hyperbolic system.

Mat. Shornik, n. Ser. 38, 451-464 (1956)

reviewed 11/1956

The integration of the equations of the vortex-free stationary gas flow in a strip of planes being bounded by the x-axis and the line y = y(x) leads to the problem (P) of the solution of the functional equation

for the function f. For the known function  $\psi$  (angle of inclination of the line y = y(x)) it is assumed

a)  $|\varphi(x)| < \pi/2$ ; b)  $\varphi(x)(4+\xi)^{-x} \longrightarrow 0$ ; c)  $\varphi$  satisfies a Lipschitz

By the method of successive approximations the unique solution of the problem (P) is shown. If f(u) shall describe the flow then it must still satisfy the inequation

LAVRENT YEV, M.M.

SUBJECT

PERIODICAL

USSR/MATHEMATICS/Intergral equations

CARD 1/2 PG - 200

AUTHOR TITLE

LAVRENT'EV M.M.

On the question of the inversion problem in the potential theory.

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Doklady Akad. Nauk 106, 389-390 (1956)

reviewed 8/1956

The form and magnitude of a body of known density shall be determined if on a piece of closed surface around the body the potential generated by the body and its derivative with respect to the normal are known. The author formulates the following theorem which relates to the stability of the wanted solution: Let  $\varphi(x,y)$  be a two times continuously differentiable function, it shall be defined and positive in a finite simply connected region S of the (x,y)-plane and shall equal zero on the boundary of S. Let D be the domain bounded by the surfaces z = - p(x,y) and  $z = (h-1) \varphi(x,y)$ . If the harmonic function u(x,y,z)

$$\iint_{S} \operatorname{grad}^{2} u \left[ x, y, - \varphi(x, y) \right] dx dy < m^{2}$$

$$\iint_{S} \operatorname{grad}^{2} u \left[ x, y, (h-1) \varphi(x, y) \right] dx dy < m^{2},$$

$$\iint_{S} \operatorname{grad}^{2} u \left[ x, y, (h-1) \varphi(x, y) \right] dx dy < M^{2},$$

then also

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Doklady Akad. Nauk 106, 389-390 (1956)

$$\iint_{S} \operatorname{grad}^{2} u\left[x, y, z \varphi(x, y)\right] dx dy < c M^{\frac{z+1}{h}} n^{2 \cdot \frac{h-z}{h}}$$

is valid, where -1 < z < h-1, c a constant independent of n. The proof shall result from the estimation of the logarithmic derivative of the last integral.

LAVRENTYEV, M.M. LAVRENTYEV, M.M.

SUBJECT

USSR/MATHEMATICS/Theory of functions

CARD 1/2 PG - 642

AUTHOR

LAVRENT'EV M.M.

TITLE PERIODICAL Quantitative precision of the inner theorems of uniqueness.

Doklady Akad. Nauk 110, 731-734 (1956)

reviewed 3/1957

Let f(z) be analytic in the unit circle D. Let A be a point set which converges to an inner point of D. Let  $|f(z)| \le 1$  everywhere in D and  $|f(z)| \le \xi$  on the set A. D is mapped conformally onto itself such that a part of A goes over into the sequence of numbers  $a_1, \ldots, a_n, \ldots$  which converges to a number  $a_1, \ldots, a_n, \ldots$  where  $|a_k| \le |a_{k+1}|$   $(k=1, \ldots, \infty)$ . Then in a point  $z_0$  we have:

$$|f(z_0)| \leq \left[\frac{|z_0| + |a|}{1 + |z_0| \cdot |a|}\right]^{\frac{n}{2}}$$
.

Let a function u(z), being harmonic in D, satisfy the inequations

$$|u(z)| \le 1$$
 everywhere in D

 $|u(z)| \in \mathcal{E}$  for |z| = r, arg  $z \leq \alpha$ , arg  $z \geq 2\pi - \alpha$ .

Then

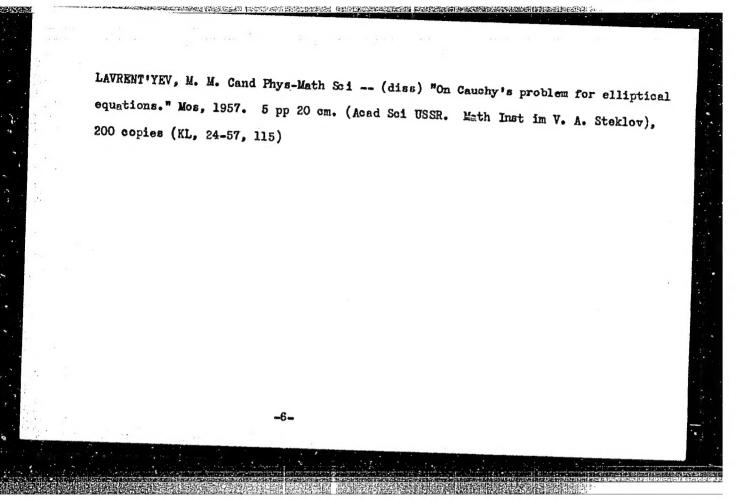
$$u(e^{\ln r+i \gamma})| \leq q(r) \varepsilon^{\gamma(r)\alpha}$$

Doklady Akad. Nauk 110, 731-734 (1956)

CARD 2/2

PG - 642

where q(r) and  $\chi'(r)$  are certain functions of the radius r. Herefrom the estimation for u(z) in an arbitrary point of D can be obtained by aid of the theorem of Hadarmard on three circles.



### "APPROVED FOR RELEASE: 06/20/2000

#### CIA-RDP86-00513R000928820006-6

LAVRENT YEV, 111.111.

SUBJECT USSR/MATHEMATICS/Differential equations CARD1/3 PG - 722

AUTHOR LAVRENTJEV M.M.

TITLE On the Cauchy problem for linear elliptic equations of second

order.

PERIODICAL Doklady Akad. Nauk 112, 195-197 (1957)

reviewed 4/1957

Theorem: Let the function  $u(x,t) \equiv u(x_1,x_2,...,x_n,t)$  satisfy the equation

(1) 
$$\frac{\partial^2 u}{\partial t^2} + \sum_{i,j=1}^n a_{ij} \frac{\partial^2 u}{\partial x_i x_j} + \sum_{i=1}^n b_i \frac{\partial u}{\partial x_i} + cu = 0$$

in  $x \in \Omega$ ,  $0 \le t \le 1$ , and vanish for t = 0 and on the boundary of  $\Omega$  for every t ( $\Omega$  is a simply connected fonote domain with smooth boundary). Let the coefficients of (1) satisfy the following conditions:

a) there exist  $\frac{\partial a_{ij}}{\partial x_i}$ ,  $\frac{\partial^2 a_{ij}}{\partial x_i \partial x_j}$ ,  $\frac{\partial^2 a_{ij}}{\partial t^2}$  and they are summable with the

square for every t in  $\Omega$  such that